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Resonant Ionization Laser Ion Source at TRIUMF – Quo Vadis? Future Directions with an Ambitious View into the Future

The current status of the TRIUMF resonant ionization laser ion source (T RILIS) is that isotopes from 42 different elements have been delivered successfully and are part of the RILIS portfolio with ionization schemes for another 7 elements ready to be deployed on-line. As such the resonant ionization laser ion source is an indispensable ion source at TRIUMF's isotope separator and accelerator facility –as it is at other radioactive ion beam facilities. The current systems are using high repetition rate, pulsed, tuneable laser systems and installations that require expert control and operation.
I will describe the current T RILIS laser ion source system and operation model and project / cost and lay out the development path for a future system that may allow hot-cavity RILIS systems to become less dependent on expert control, but allow for substantially less personnel critical operation. Such developments could, in a decade or two, turn RILIS not only into a standard ion source for RIB facilities, but also for dedicated ion-sources and analytical instruments.

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I have read the Code of Conduct to attend ICIS2023.

Presenter if not the submitter of this abstract

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